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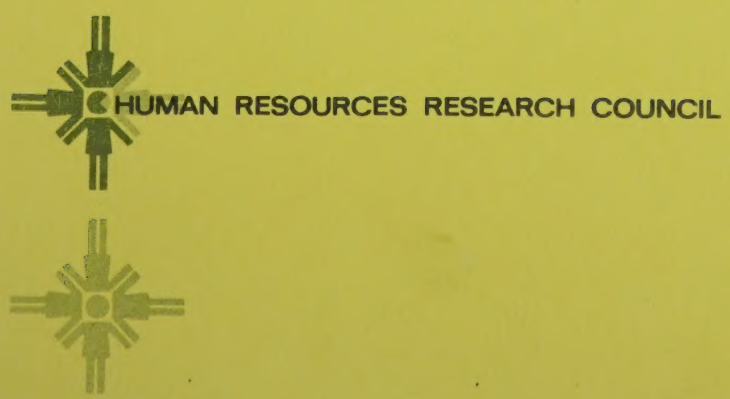
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A REGIONAL PROGRAM

THE CHALLENGE OF THE SEVENTIES,
PLANNING EDUCATION FOR THE DECADES AHEAD

Proposed Title

The Atlantic States Regional Education Council

By

J. W. Arthur, Jr., G. W. Ingram, and W. J. York

1970

POLICY COMMITTEE

E. J. Dyck, Chairman, THE CHALLENGE OF THE SEVENTIES, *Issue of December For the Province of Alberta*

PLANNING EDUCATION FOR THE DECADES AHEAD:

E. J. Dyck, Executive Secretary, Policy Committee, *Issue of the Education Planning and Human Resources Research Council.* A MISSION PROPOSAL

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ABSTRACT OF THE PROPOSAL

The dramatic growth of the world's educational systems which began in the 1950's and continued in the 1960's has been accompanied by major strains on traditional educational structures. To accommodate these pressures, educational systems have turned to planning.

However, even where conditions have lent themselves to effective planning, education planning has fallen into a rather commonplace pattern involving three main steps.

1. At the outset, predictions are made of the student enrolment. Most frequently these predictions take the form of statistical projections based on trends observed in recent years.

2. These predictions are then translated into statements about needs to be satisfied -- needs for teachers, for space, for curriculum material, for financial resources, and so on.

3. Finally, short term "plans" are prepared to enable the system to meet these needs. Planning thus has become a method for adapting to changes predicted by extrapolating the past into the future.

The shortcomings of this approach to planning education have made it clear that success in education planning requires that a number of important conditions have to be satisfied. The tasks of the planner must be thought through carefully and completely. Educational planners must have an adequate information base from which to work and the tools with which to take periodic readings of the state of the educational system.

The dramatic growth of the world's educational systems which began in the 1950's and continued in the 1960's has been accompanied by a corresponding increase in the number of educational structures. To accommodate these educational systems have turned to planning.

However, even where conditions have lent themselves to effective planning, educational planning has fallen into a rather commonplace pattern involving three main steps.

1. At the outset, projections are made of the student enrollment for the next five to ten years. These projections are based on trends over the past few years and on the needs of the community.
2. Finally, and most often, the system is prepared to enable the system to meet these needs. Planning thus has become a method for reacting to changes brought by expanding the system into the future.

The shortcomings of this approach to planning education have made it clear that a new approach is needed. It is a matter of fact that the educational planning process has a number of important characteristics which must be brought through carefully and completely. Educational planners must have an adequate information base from which to work and the tools with which to make periodic reviews of the state of the educational system.

Considerable thought must be given to the future and its ramifications for planned programs. The individual parts of a plan have to be developed in such a way that they are internally consistent as well as coordinated with other plans in related human resource areas. Care must be taken to ensure the rational allocation of human and financial resources to a planned program. And the most appropriate social and institutional arrangements for educational planning must be devised.

The Alberta Human Resources Research Council has initiated a comprehensive program of research and development which is aimed at meeting these conditions by:

1. developing a framework of methods for comprehensive, continuous, and future-oriented education planning;
2. developing models for the reorganization of some of the social and political aspects of the education planning process;
3. helping education planning agencies implement the products of AHRRC's research.

The research and development program will proceed in four main phases. In the research phase, current education planning practices will be evaluated and a set of specifications for improvement will be designed. In the development phase, the products of the first phase will be field tested in a number of education planning agencies. In the third phase, the results of the development phase will be used to evaluate and redesign the products of phase one with a view to making them useful in a variety of educational settings. In phase four, AHRRC will assist planning agencies

in establishing the products of its research and development effort as integral and accepted parts of their ongoing planning activities.

The Research Program

The research program includes four rather discrete but inter-related strands.

1. Studies of the Influence of Circumstances and Ideologies on Education Planning. The environment in which planning takes place determines the nature of the planning activities which are undertaken on behalf of given objectives. A three stage program to discover the impact of situational factors on planning has been designed:

- a. an examination of the political constituency of educational planning and of social objectives held for education;
- b. the development of alternative maps of the domain of education planning and of alternative criteria for evaluating the educational system;
- c. the construction of models for altering the institutional context of educational planning.

2. Studies of Information Systems for Educational Planning. Without an instrument for assessing the state of the educational system (as a basis upon which to measure progress and to plan alternative educational strategies), the development of plans becomes guesswork. This program has five stages:

- a. an assessment of the information needs of education planners and the development of an inventory of educational planning theories and models;
- b. the formulation of a preliminary set of educational indicators;

c. an investigation of the prospects for developing a set of more comprehensive educational indicators;

d. the development of specifications for a comprehensive, integrated information system for use by education planners;

e. an exploration of the implications of using this information system in education planning.

3. Studies of the Rational Allocation of Resources to Educational Programs. Planners need a repertoire of techniques which will enable them to determine the appropriateness of allocations of human and financial resources to planned programs. This program will proceed in four stages:

a. the compilation of an inventory of resource allocation techniques;

b. an assessment of the place of these techniques in the educational planning process;

c. the design and validation of a simulation of the educational system which can be used by planners to determine the likely consequences of proposed changes in educational policies;

d. the development of a model for using these techniques in education planning.

4. Studies of the Future. Because of the rapid pace of social change and the need to determine the likely impact of probable social, political, and economic changes on the educational system, some mechanism for anticipating change must be woven into the planning fabric. This program is to be carried out in five stages:

a. an analysis of available forecasts relevant to educational systems;

b. a series of intuitive forecasts (using Delphi, scenario, and stakeholder methods) of future social and educational conditions;

c. an analysis of the educational system to determine its responsiveness to social change and the development of methods which can be used to predict the impact of social changes on education;

d. an analysis of the likely impact of predicted changes on the educational system;

e. the development of specifications for integrating social forecasting and educational planning.

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CHAPTER ONE

RATIONALE AND MAJOR FOCUS OF THE MISSION

Rationale: Twenty Years in Retrospect

Since the early 1950's educational policy makers and administrators have been preoccupied with the problems of growth and the cost of public education. Enrolments at all levels have risen sharply, programs and institutions have proliferated, and public expenditures on education have received high priority.

More recently, new forces have challenged the traditional ends and means of education and have demanded increasing attention from policy makers and planners. Although they have not always done so adequately, educational systems have had to make some adjustments to a variety of social, political and economic pressures. Systems have had to cope with such factors as technological change, marked increases in urban populations, and heightened demands for equality of educational opportunity for minority groups. Provisions have had to be made for the optimum movement of students through the educational system. Changing inter-governmental relations in education have had to be accommodated. The dilemmas prompted by conflicting demands for economy in education and for improvements in the quality of education have needed resolution. And decisions about allocating human and financial resources to educational programs have had to be made.

It seems certain that these social, political and economic trends, which strained the capacity of the educational system to change in the 1950's and 1960's, will continue and perhaps even intensify in the 1970's. If such continuing pressures are, in fact, more or less inevitable, it follows that the time has come to develop planning organizations and procedures to guide the growth and development of educational systems.

Lessons of the Last Fifteen Years

Over the last fifteen years or so, efforts to plan education have been beset by difficulties. The reluctance of governments to commit themselves to planning has hindered the development of clear educational priorities and of programs to achieve them. As a result, educational planning has tended to be haphazard and incomplete, isolated from planning in related human resource areas.

Moreover, most planning units were, and still are, ill-equipped to handle their task effectively. Incentives for planning have been missing. Adequately prepared planning personnel have been scarce. Most units have been plagued by poor information systems, tokenistic representation on planning boards, and over-reliance on informal contacts for information exchange.

Even where conditions have been more conducive to effective education planning, planning procedures have remained inadequate. Planners have tended to be too cautious, more concerned with immediate results than with the development of long-term programs. The techniques used in planning have usually been rudimentary at best, often based on projections alone, with

no images of alternative futures. Budgeting has not been coordinated with program planning and has remained a short-run, straight-line exercise. Tools to evaluate educational performance have been missing, and few attempts have been made to deal adequately with the quality of education.

These deficiencies have been recognized for some time. In 1958, a group of Latin American educators stated that educational planning should have

(1) comprehensive coverage, embracing all levels and parts of the educational system in a single view including quantitative and qualitative aspects; (2) a longer time perspective, reaching beyond a single year and to at least several years and, where possible, should cover a period comparable to the length of formal education itself; and (3) that educational planning should be fully integrated, with the planning of economic and social development. [Unesco, 1968, p. 9]

The meaning and implications of experience in education planning since that time have made it clear that the prescription for the improvement of planning has not changed very much in the last twelve years. The tasks of the planner must be thought through carefully and completely. Educational planners must have an adequate information base from which to work and the tools with which to take periodic readings of the state of the educational system. Considerable thought must be given to the future ramifications of planned activities. The individual parts of a plan must be articulated in such a way that they form a coherent and consistent whole. Care must be taken to ensure the rational allocation of human and financial resources to proposed programs. And the most appropriate social and institutional structures for educational planning must be created.

Major Focus of the Mission

The Alberta Human Resources Research Council has initiated a long-term, comprehensive program of research and development on education planning. The mission is designed in such a way that it can contribute to enhancing education planning capabilities and improving planning practices in education by:

1. developing a framework of methods for comprehensive, continuous, and future-oriented educational planning;
2. developing models for the reorganization for some of the social and political aspects of the education planning process.

To work toward these global objectives, H.R.R.C. has begun to organize a long-term research and development mission. In order to maximize the impact of the products of this mission on educational planning practices, H.R.R.C. plans to carry the mission on through the various phases of a complete research and development cycle (including invention, design, field testing and dissemination). Evaluation will form an integral part of every phase, although it will be given more emphasis at the field testing stage. Basic and applied research will not be considered separately. Whenever possible, this mission will build on the current research programs of H.R.R.C., other agencies, and individual scholars; research studies will be commissioned whenever required.

Phase 1. In Phase 1, we will concentrate on the formulation of new solutions to planning problems and upon the ordering and systematizing of these solutions into operational models. Current educational planning

practices will be examined and evaluated. The end products of this phase will include a description of current practices and a set of specifications for improvement. Emphasis will be placed upon (1) the integration of social forecasting and planning; (2) the development of information systems for planners; (3) the effects of circumstances and ideologies on planning; and (4) the rational allocation of human and financial resources to educational programs.

Phase II. Because experience has shown that efforts to reorganize and revitalize planning have failed when inadequate attention has been given to the problems of changing existing planning practices, Phase II of the proposed mission will focus on (1) the development and field testing of "products" derived from the first phase; and (2) the creation of circumstances more conducive to effective educational planning. Evaluation of the models developed will be emphasized during this phase. It is likely that the field test institutions will be selected on a voluntary basis, and that they will be given the major responsibility for administering the field test. A major criteria for selecting field test sites would be that they agree to carry out the trials according to the specifications inherent in the model to be evaluated. Assistance from H.R.R.C. and other cooperating research agencies would be given in designing and evaluating the field tests.

Phase III. The spiral approach to research and development has proven effective in efforts to develop closer and closer approximations to "ideal" end products. Therefore, following Phase II (the first field test of the models developed) another cycle of development and field testing

will be undertaken. This phase will include a greater number of field centers. Special attention will be given to the difficulties which will be encountered in adapting the products to the needs of a particular situation. At the end of Phase III, the various components of the total planning process which will have been developed will be evaluated again and redesigned when necessary. The results of this process of re-evaluation and redesign will be a set of products which will be useful in a variety of educational settings.

Phase IV. In Phase IV, H.R.R.C. will assist planning agencies in establishing the products of its research and development effort as integral and accepted parts of their ongoing planning activities. This phase will include both demonstration and dissemination activities. At the dissemination stage, H.R.R.C. will be concerned with creating wide-scale awareness among practitioners of the existence and general nature of the products. The major purpose of the demonstration phase will be to provide an opportunity for practitioners to examine and assess the operating qualities of the product.

The Organization of this Proposal

This proposal is an elaboration of Phase I of the overall mission. Some of the specifications for the subsequent phases of the mission can be inferred from the discussion in the following chapters. More detailed design specifications for Phase II through IV will be prepared during the course of Phase I.

This Chapter has included the rationale of the proposed mission, a statement of purposes, and a description of the phases of the mission. Chapter Two contains a discussion of the conceptualization of education planning which is being used to guide the research efforts of this mission and a summary of the research activities to be undertaken during Phase I. Chapters Three to Six describe the research thrusts of the mission in some detail, and Chapter Seven outlines the administrative structure for the proposed mission.

CHAPTER TWO

THE MODEL AND AN OVERVIEW OF THE RESEARCH PROGRAM

Three themes have dominated criticisms of most current approaches to planning education. The first focuses on its parochialism; educational planning has usually been conducted by small, isolated groups in the context of narrowly defined studies, rather than in the context of a comprehensive, integrated approach to social planning. The second identifies the idiosyncratic and non-theoretical character of education planning. It has been concerned with the peculiar characteristics of individual educational systems and few attempts have been made to investigate the relations among social, political, and educational phenomena. The third criticism has been directed at the formalism of educational planning; planners tend to concentrate on governmental institutions and their legal norms and regulations, rather than on the performance and behavior of the educational system.

Out of this state of affairs has come the recognition of a need for theoretical and practical innovations in educational planning. The needed innovations should be characterized by:

1. a more comprehensive view of the education planning process. Every effort must be made to break out of parochialism and to arrive at a more balanced representation of disciplinary specialists in educational planning;

2. precision. Past experience with overly intuitive methods of education planning indicates that more rational and scientific approaches to the problem of planning educational systems must be found;

3. realism. If the dynamics of educational planning are to be fully understood, all of the structures and processes involved in planning, policy making, and program implementation must be examined, not only the formal institutions and legal norms pertaining to educational planning;

4. intellectual order. New theoretical frameworks and conceptual vocabularies must be developed to codify and integrate the new insights and findings of research on educational planning.

A Model of the Educational Planning Process

A Profile of Educational Planning

Educational planning involves the study of educational priorities, of alternative ways of achieving them, of probable future conditions, and of contingencies and how to deal with them. The purposes of planning are to critically examine alternative courses of action, to stimulate ideas about warding off conflicts between competing priorities and about strategies for managing programs, to identify problems, and to generate data to be used in evaluating programs.

From a somewhat different vantage point, education planning should be thought of as a combination of

a management tool which will support decision makers by improving procedures for setting educational priorities and guiding the implementation of priority programs.

a coordinating tool for improving the organization of the components of programs as well as for articulating the programs with other activities outside of their immediate scope.

an up-to-date guidance system which will allow programs to be responsive to changing circumstances but which will be firm enough to assure the continuity and consistency of programs.

a source of the best information and most competent personnel for each phase of the planning process.

Educational Planning and Social Objectives

All major deliberations on educational policy involve social questions pointing out the reciprocal effects of education and social change and progress. The translation of social goals into development programs often requires determining a role for the educational system. Educational programs usually have to be planned with the probable impact of likely social changes in mind. In short, the number of occasions demanding a closer connection between educational planning and planning in other sectors of society is growing.

These summary comments suggest that this reciprocal relationship must be accounted for in the process of planning education if educational developments are to reach desired objectives. The full range of questions bearing on this problem is so broad that they must be left outside the scope of this discussion. But, the essential question remains: "How can the education planning process be structured so as to ensure that adequate attention is given to the link between education and social development?" Many elements of an answer to this question can be found throughout this proposal; three points will be noted briefly here as well because of their fundamental importance in understanding our generalized model of the education planning process.

In the first place, the education planner must survey the social structure which his plans are designed to serve. Social goals and the need to cope with significant social problems often provide the planner's point of departure by indicating what action is required. The economic, political, and social capabilities of the system define the limits of the planner's interventions.

Secondly, because social objectives for education often carry with them statements about the quality of education and social life, a forum for debating these norm-laden judgements must be created. In a pluralistic social system, qualitative priorities are set politically; the difficulty is to build this debate into the planning process so that issues can be handled explicitly. Otherwise, questions of quality will be kept at an implicit level where they cannot be dealt with effectively.

Finally, education planning must be linked with planning for economic, social and political development. Unless the educational planner is aware of these contexts, he cannot identify important trends and needs and, consequently, cannot develop realistic programs.

A Systems Model of the Education Planning Process

Educational planning is an evolving,

. . . developmental process in which several levels of intellectual undertaking are in constant interaction. Although a logical sequence may be listed, it is not necessarily a temporal one. Even as we organize for planning we must provide for the interplay among levels. For our concern with assuring a planning outcome which gives appropriate weight to all relevant elements implies a readiness to refine and revise the outcomes of earlier stages as we move into larger ones. (Kahn, 1969, p. 60)

The conceptual model of the process of educational planning which was used to guide the development of our proposed program of research is represented by Figure 1 and is summarized in the following discussion.* It should be noted that this model is not intended to be representative of actual planning practices. Because planning is often conducted at the same time as other organizational activities, it is sometimes difficult to identify what is planning and what is not, who is a planner and who is not. Thus, the model presents a generalized view of the stages in the planning process; it is a way of understanding what happens when educational plans are formulated.

*The model is based largely on the work of Arthur Kahn (Theory and Practice of Social Planning, 1969), Robert Dahl and Charles Lindblom (Politics, Economics, and Welfare, 1953), and David Easton (A Systems Analysis of Political Life, 1965).

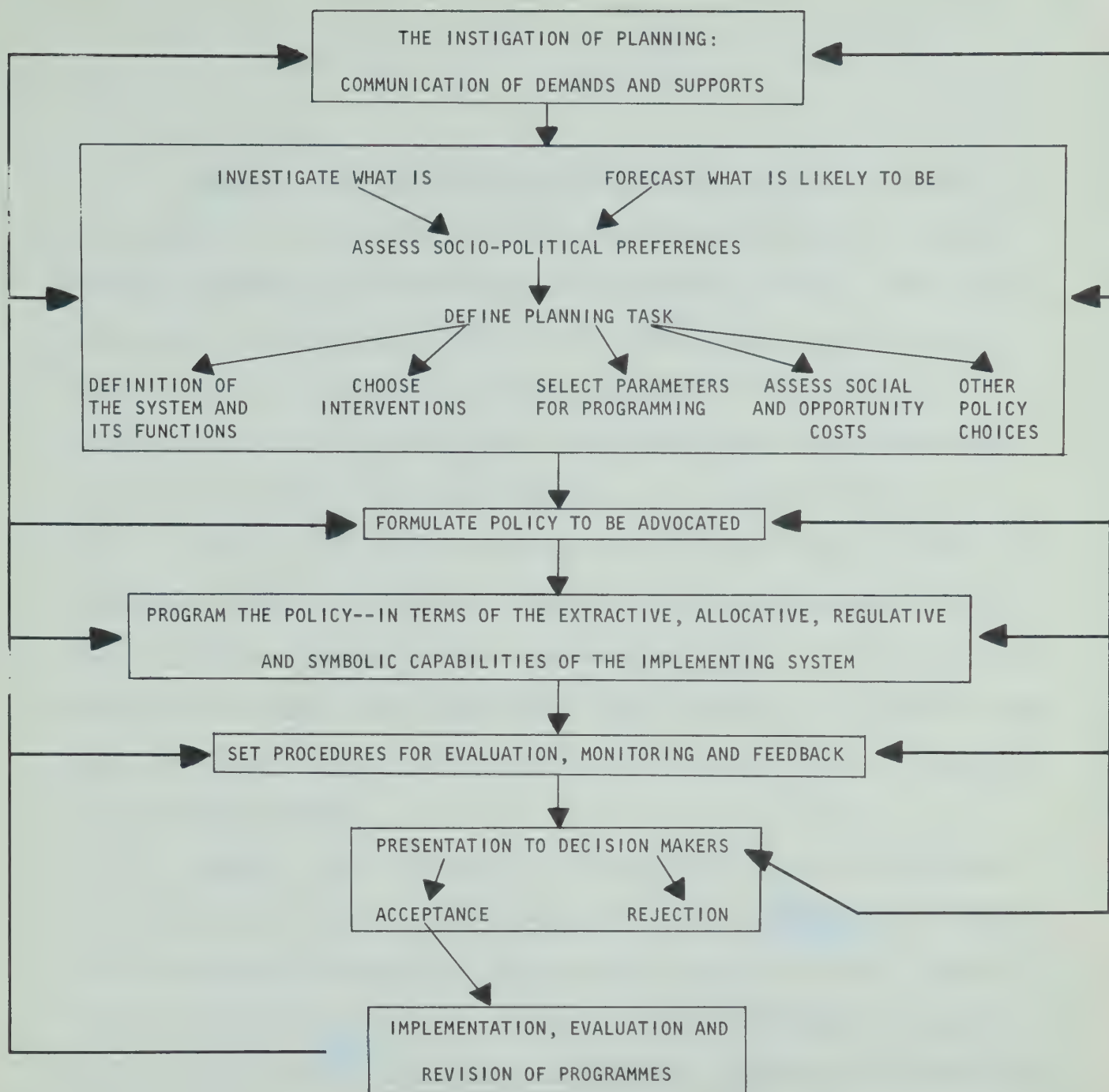


FIGURE 1. A GENERALIZED MODEL OF THE PLANNING PROCESS

Stage 1. Planning does not take place as a matter of course.

Most frequently, it begins after social and physical demands and supports have been assembled and communicated to the planning system. These demands and supports may come from a variety of sources -- individuals, organized interest groups, or the planner's own perceptions of the state of the educational system at any given time -- and each source has its own means for making its demands and supports known to the planning unit.

Various combinations of social and ecological factors affect the operation of the planning system. Identifying the instigators of planning helps to mark the boundary between the planning system and the larger social and political systems and points to the need to examine the structures, channels, behavioral styles, and changing social conditions which influence the instigation of planning.

Stage 2. Once the process of planning has been set in motion, ". . . the planner's most serious decision and major contribution is what may be called the formulation or definition of the planning task. The 'task' is formulated through a constant playing back between an assessment of the relevant aspects of social reality and the preferences of the relevant community. Each of these two factors affects and modifies the perceptions of the other. The task definition appears as an integration of the two. Much else in social planning follows from such integration [Kahn, 1969, p.71]."

The definition of the planning task, then, is a combination of rational-empirical and political processes. The definition is relative to political and social objectives and is subject to the limitations of the

current social and technological capability of the educational system. In most circumstances, the problem is likely to be resolved into a question of whether, in view of the social and technological constraints of the situation, certain tasks can be organized and motivated.

Once the preliminary definition of the planning task has been reached, the planner has established a set of criteria enabling him to begin the continuing processes of defining the functions of the planning system, selecting the most appropriate forms of intervention into the educational system, determining the features of the educational system which might be manipulated with greatest impact, assessing the social and opportunity costs of alternative interventions into the system, and making other policy choices necessary to the formulation of an educational plan.

Stage 3. Any planning process is a system for dealing with differences among goals and with conflicts over scarce resources. The result of the process of task definition is an initial resolution of these disagreements: a statement of policy or a standing plan. There is no guarantee that this standing plan is internally consistent or in harmony with other plans developed by the agency. Nor does this standing plan usually take a "maximize" or "minimize" form; most often it identifies a level of system performance that is acceptable in the circumstances. But it does serve as a general framework for guiding future decisions and moulding them in such a way as to increase their contribution to the goals of the system.

Stage 4. After agreement has been reached on the policy to be advocated, a plan of action to put that policy into effect must be drawn up. This is at least a two-stage process. The first stage involves a

Careful examination of the capabilities of the implementing system to extract the resources necessary to see the plan through, to reallocate those resources when needed, to control its own behavior, and to secure the commitment of its members to the plan. The second requires the transformation of the general policy into specific programs or "... time-phased plans for allocating resources and for specifying the successive steps required to achieve stated objectives [Committee for Economic Development, 1966, p. 26]." Effective programming demands that provision be made for the coordination of policy and programs, that the mix of program activities be balanced through careful analysis of social and political preferences for action, and that the sources of manpower to be used to carry through the planned programs be identified.

When programming an educational policy, special attention should be given to (1) the provisions for coping with resistance to change, (2) the feasibility and consequences of integrating the planned programs into existing educational procedures, and (3) the need for protecting the educational rights of the citizenry.

Stage 5. To be effective, planning must be organized to support a continuing process, and not merely the production of a plan. A planning system must have the organizational equipment to adapt to changes in its environment and to make modifications to programs when necessary. Consequently, plans presented to decision makers should include specifications for monitoring and evaluative procedures as well as a description of mechanisms which might

be used to receive feedback about the impact of the programs when they have been implemented.

Stage 6. Although the findings of research and the development of theories are becoming increasingly important in the determination of public policy, the planner must still secure the support of political agencies for his program. In this subtle area, the planner must judge the degree of sophistication in the plan that will be attractive to pragmatic politicians and he must remember that, when confronting major problems, he functions as an advocate of one of a number of alternative courses of action and that other persons make the decisions about the actual program to be followed.

Stage 7. If the planned educational programs are accepted by a statutory decision making agency, the planning unit has a continuing role in the implementation, evaluation, and revision of those programs. Carrying out these functions provides planners with information about the efficacy of their efforts and gives them information about ways in which their programs might be updated and kept moving in the right direction.

Feedback Channels. Although the model depicts planning as a straight-line process moving through a series of pre-determined steps, in actual practice the several stages of the planning process are not nearly so well-defined. The model should be interpreted in such a way that the multiple feedback channels between stages are not overlooked.

An Overview of the Proposed Programs of Research

Objectives of the Research Programs

To describe how plans and policies are formulated and articulated at all levels in educational systems.

To evaluate the processes through which educational plans are formulated.

To develop models of the educational planning process which are viable alternatives to current planning practices.

To evaluate the alternative models and to explore the implications of their use.

To prepare the specifications for a program of field activities which can be used to test the models in a real setting.

The Research Programs

Although it would be possible to design a program of research which follows the generalized model of the education planning process exactly, such an effort would not be economical and it would overlook some of the common elements among the various stages of the model. Certain themes recur throughout the model -- the crucial importance of information about the current state of the educational system and about the impact of probable future conditions on the system, the significance of the social and institutional context in which planning takes place, and the need to develop more rational and comprehensive methods for planning education. Because of their practical and theoretical significance, the research program is organized around these themes.

The research program includes four rather discrete but inter-related strands.

1. Studies of the Influence of Circumstances and Ideologies on Education Planning. The environment in which planning takes place determines the nature of the planning activities which are undertaken on behalf of given objectives. A three stage program to discover the impact of circumstances and ideologies on planning has been designed:

- a. an examination of the political constituency of educational planning and of the social objectives held for education;
- b. the development of alternative maps of the domain of education planning and of alternative criteria for evaluating the educational system;
- c. the development of models for altering the institutional context of educational planning.

2. Studies of Information Systems for Educational Planning. Without an instrument for assessing the state of the educational system (as a basis upon which to measure progress and to plan alternative educational strategies), the development of plans becomes guesswork. This program also has five stages:

- a. an assessment of the information needs of education planners and the development of an inventory of educational planning theories and models;
- b. the development of a preliminary set of educational indicators;
- c. an investigation of the prospects for developing a set of more comprehensive educational indicators;

d. the development of specifications for a comprehensive, integrated information system for use by education planners;

e. an exploration of the implications of using this information system in education planning.

3. Studies of the Rational Allocation of Resources to Educational Programs. Planners need a repertoire of techniques which will enable them to determine the appropriateness of allocations of human and financial resources to planned programs. This program will proceed in four stages:

a. the development of an inventory of resource allocation techniques;

b. an assessment of the place of these techniques in the educational planning process;

c. the development of a simulation of the educational system which can be used by planners to determine the likely consequences of shifts in educational policies;

d. the development of a model for using these techniques in education planning.

4. Studies of the Future. Because of the rapid pace of social change and the need to determine the likely impact of probable changes on the educational system, some mechanism for anticipating changes must be woven into the planning fabric. This program is to be carried out in five stages:

- a. an analysis of available forecasts relevant to educational systems;
- b. a series of intuitive forecasts (using Delphi, scenario, and stakeholder methods) of future social and educational conditions;
- c. an analysis of the educational system to determine its responsiveness to social change and the development of methods which can be used to predict the impact of social changes on education;
- d. an analysis of the likely impact of predicted changes on the educational system;
- e. the development of specifications for integrating social forecasting and educational planning.

These four major research thrusts are to be phased, interrelated and monitored as illustrated in the Programs of Activities plotted at the end of each of the four following chapters. All of these activities are described in some detail in the following chapters of this proposal.

A Note on Research Strategy

Although the methods to be followed in carrying forward the proposed programs of research are outlined when the individual studies are described, four general points about our research strategy bear mentioning here.

First, we will use the Province of Alberta as our research case and, more generally, will focus on educational planning practices in Canada. Alberta and some other Canadian provinces are good field settings in which

to explore and describe the effects of social, political and economic developments on education planning: for example, the growth of enrolments in all types of institutions has been rapid, the pace of urbanization is accelerating, the per capita investment in education is high, and there is an emerging commitment to improving educational planning practices at the federal, provincial, and local levels.

Second, if we are to assign the proper weight to factors which influence the planning process in education, we must be able to compare planning practices in a number of settings as well as alternative approaches to planning. Consequently, we intend to examine interprovincial and international planning practices with a view to identifying both particular differences and important similarities and to comparing the effectiveness of a variety of planning processes.

Third, the objectives for Phase I of the total mission can be described as the formulation of model solutions to problems of planning education. Among the criteria which will be applied to the models are the feasibility of their use in existing planning agencies, their usefulness in a variety of settings, and their probable contribution to the improvement of planning practices.

Finally, the study of planning requires simultaneous attention to each of the four research strands outlined in the preceding section. Consequently a meeting ground must be created for sociologists, political scientists, economists, operations researchers, mathematicians, psychologists and educators and the tasks assigned to representatives from each of

these disciplines and others have to be determined carefully. Since differences in methodology make a difference in the yield of the research and since different disciplines approach problems from varying vantage points, every effort will have to be made to match methods and disciplines with the information yield desired from the individual studies.

CHAPTER THREE

THE INFLUENCE OF CIRCUMSTANCES AND IDEOLOGIES ON EDUCATION PLANNING

Educational systems cannot be understood without a knowledge of the social and political forces that shape them. Governmental, political, and social structures affect educational systems by placing certain demands on them or by giving them some supports -- demands and supports for goals, for programs, for efficiency and effectiveness, and so on.

In recent years, these demands have intensified; decisions that were once made largely within the educational system are being influenced increasingly by persons outside the system proper. In part, these demands have heightened because of rapidly mounting public expenditures on education. More basic, however, is the fact that educational change and development do not breed social and political contentment. The evaluation of change and the measurement of educational progress are contentious issues.

It follows from these propositions about the embeddedness of education in a larger social and political system that a major thrust of a program of research on education planning must focus on the socio-political matrix in which planning takes place. If this is to be done adequately, the following questions must be answered: (1) how do these external forces influence educational planning structures and what kind of structures result; and (2) how do these conditions affect the outputs of the planning process. To deal with these questions, H.R.R.C. proposes to undertake a program of research to examine:

1. the social and political constituency of education planning;
2. the organization of education planning;
3. the outcomes of the process of planning education.

Our point of departure in these studies will be the concept of the "organization set". The most salient features of a planning agency's environment have to do with other public and private organizations which influence it. These other organizations, including teachers' and school trustees' associations, government, branches of the public service, and educational institutions, are the remaining elements of the planning agency's set.

The set generally circumscribes the functions of the planning agency and has an impact on the agency's structure and, of course, on its relations with the other members of the set. An analysis of the organization set of planning agencies is likely to be useful when explaining:

- (a) structural variations among planning organizations;
- (b) their autonomy;
- (c) their public identities and credibility;
- (d) their effectiveness;
- (e) their linkages with other public and private planning systems; and
- (f) the forces leading to cooperation or independence among planning organizations.

Studies of the Organization of Education Planning

It is safe to say that the roles and positions of education planners vary considerably. It seems safe to say, also, that the kind of role that the planner plays and the type of position which he occupies have a great deal to do with the impact he has on educational policy makers.

Before any recommendations for improving current planning practices can be put forward, it is essential to understand the present organization of education planning and to be able to locate the place of the planning unit in the public service.

Objectives of this Study

To identify the legal, political, and professional structures for education planning and to determine their impact on the planning process.

To develop alternative models for organizing education planning and to explore the implications of their use.

To identify the relationships between education planners and those other planners who are involved in educationally relevant activities.

To develop alternative models for establishing mechanisms for coordinating the work of various planning agencies and to explore the implications of their use.

To determine those factors which should be accounted for in a strategy for presenting educational plans to policy makers.

To develop alternative strategies for the presentation of educational plans and to explore the implications of their use.

Research Effort

In discussing our model of the planning process we concluded that education planning must be organized in such a way as to support a process and not only the production of plans. The implications of this will vary with circumstances, but the general message should be clear: a planning unit needs to be organized for continuous growth, adjustment, and experimentation.

H.R.R.C.'s research program will examine the design of planning organizations, their connections with other planning agencies, and their strategies for vetting plans with a view to identifying factors which contribute to their effectiveness and those which lead to dysfunctional variations in some of their operations.

Studies of the Constituency of Educational Planning

Theory tells us that the goals and programs of an educational system are set out in law, and that the authorities responsible for establishing them are named in the law. But experience has shown that things are not so simple.

In practice there is often a gap between formally stated objectives and those which are actually pursued. Formal objectives are stated very generally; they have to be interpreted, and the results vary greatly with the interpretation.

The process of setting priorities among objectives is essentially political. Forces within the larger social and political systems work vigorously to influence educational decisions and often have a great impact on educational practices.

The social and political context places constraints on the types of planning activities undertaken on behalf of given objectives. As Tinbergen has pointed out, the need for planning varies greatly with circumstances and it ". . . will be most desirable if its influence is felt to be favourable [1964, p. 65]".

Objectives of this Study

To explain and evaluate the processes through which educational objectives are formulated and articulated within and outside of educational systems.

To describe and critically examine the feedback mechanisms through which educational objectives are reformulated.

To determine those environmental factors which have the greatest impact on education planning.

To develop a procedure for channelling demands for education planning and to explore the implications of its use.

Research Effort

Substantively this research effort will focus on (1) the process of setting social objectives for education planning, (2) the political instigation of planning; and (3) environmental influences on educational planning. Broadly speaking, the studies will be concerned with the ways in which planning organizations respond to outside influences and with their patterns of adjustment and accommodation to external conditions.

This work will proceed on the assumption that it must be undertaken on a large enough scale to reflect variations in significant factors that do not appear within the confines of a limited situation. Comparative analysis is an approach that is especially suited to doing this.

Studies of the Outcomes of Education Planning

As well as being able to describe the process of planning, we must also be in a position to characterize the products and consequences -- both anticipated and unanticipated -- of planning efforts in education. Few, if any, plans are ever fully realized; the outcome of any planned program is at best a series of steps toward a goal. The planning unit, then, has a continuing role in the implementation, evaluation and revision of standing plans, and the ways in which it plays these roles have much to do with its credibility and success.

Objectives of this Study

To determine the role of the planning agency in the evaluation and revision of plans that have been implemented.

To develop alternative conceptions of that role and to explore their implications for planning practices.

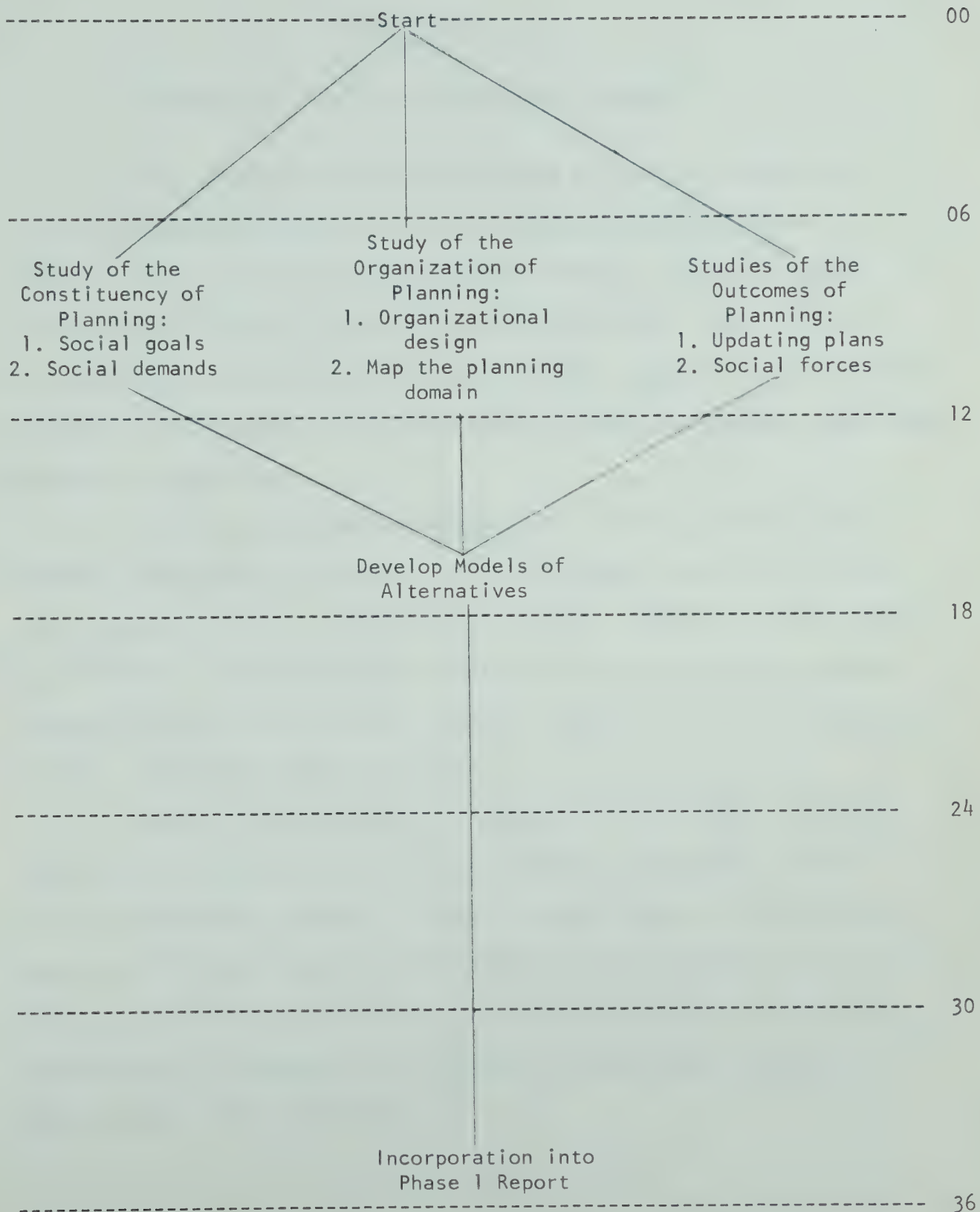
To identify social and political factors which affect the implementation of educational plans and influence the outcomes of planned programs.

Research Effort

This program of research will focus on (1) the role of the planning agency in updating standing plans and (2) social factors which determine the outcomes of the planning process. The questions to be answered in connection with the second focus are complementary to those which were raised in connection with the set of studies on the constituency of educational planning and do not require further elaboration.

The study dealing with the role of the planning agency in the evaluation and revision of plans is based on the premise that planning organizations need feedback from their environment to guide their operations and indicate the need for organizational change. Consequently, the study will examine: (1) the channels established by planning agencies for receiving feedback from their environment; (2) mechanisms through which planning agencies can adjust to changing environmental conditions; and (3) the processes through which plans are evaluated and revised.

Schedule of Work



CHAPTER FOUR

INFORMATION SYSTEMS FOR EDUCATIONAL PLANNING

In a fundamental sense, the problem of developing improved methods for planning education is one of designing better information systems. Those presently used by education planners are characterized by the computerization of routine "housekeeping" tasks. Data that were once processed by hand have come to be handled by automatic data processing equipment, and the applications concentrate on sorting, counting, and simple mathematical operations.

These housekeeping applications are dedicated largely to the internal operations of government. Efficient data processing is the goal, and the speed, accuracy, and economy of handling information automatically are emphasized. Applications are limited to specific tasks and, because they are developed independently, cannot be combined with other applications to serve a variety of information needs.

However, when planning is thought of as it is here, different conceptions of information systems are required. Educational planners need an information system to: (1) meet the requirements of day-to-day operations; (2) facilitate the identification of educational problems and goals for educational innovations; (3) provide information for the control and evaluation of programs; and (4) enhance the exchange of information among planners and policy makers.

To work toward the development of such an information system, H.R.R.C. proposes to undertake a program of research that has two main thrusts:

1. the development of a data bank for educational planners;
2. the creation of a set of educational accounts.

Studies of Educational Data Banks

Planners need information about the environment of education as well as information about its internal operations. A bank of data on educational operations, social phenomena, and relevant features of the physical environment could provide the information necessary for a variety of planning activities.

Objectives of this Study

To determine the information needs of education planners.

To develop specifications for a data bank to supply, at a reasonable cost, the proper kinds, quality, and quantity of information to education planners and decision makers.

To plan the rational use of information processing technology to meet the information needs of education planners.

To develop an organized procedure for the production of data and the distribution of information.

Research Effort

The research program will be designed in such a way as to capitalize on both the on-going efforts of H.R.R.C. in the study of information systems and on work being done elsewhere at the present

time. In the Summer of 1969, H.R.R.C. sponsored a seminar on "The Advisability of a Data Bank and Social Survey Center". A survey of information production in law and health or social welfare is soon to be conducted. Representatives from Canada's ten provinces formed the Ministers' Information Systems Committee and have done a considerable amount of work in preparation for the creation of an educational data file.

The first substantive focus of the research program will be on what experience has shown to be some of the major shortcomings of established data banks:

1. the use of theoretical studies and of an assessment of the information requirements of education planners to determine the data base for the bank;
2. procedures for the development of the data bank and for keeping its files up-to-date;
3. the development of procedures for standardizing banked data and of tools for data analysis.

The second set of studies will deal with measures of the information system's performance. Without doubt, the three most central issues in evaluating information systems concern system "relevance" (where relevance refers to a relationship between a user's requests and the system's response), the quality of the data files, and the potential value of the information generated by the system. While the assignment of relevance values to documents and the measurement of the system's benefits can be difficult, the convergence of user requirements with system response, quality, and value are of basic importance in education planning and warrant careful attention.

Developing an Educational Account

Effective quantitative procedures must be established for monitoring and evaluating the performance of educational systems on a continuing basis. This is not to suggest that, with the effective incorporation of quantitative indices into the process, educational planning will become a simple matter of summing it all up. Rather, it emphasizes the need to understand better educational trends, educational costs, and the quality of educational programs in order that policy needs might be determined, public programs might be evaluated, and the effects of legislation might be tested.

Objectives of this Study

To determine the criteria by which the performance of educational systems can be measured.

To evaluate and explore the implications of using these criteria.

To design a set of indices or accounts through which these criteria can be used to evaluate educational performance.

To evaluate these indices and explore the implications of their use.

Research Effort

H.R.R.C. proposes to undertake an initial program of work in this area that, in addition to a base-line analysis of theories, models, and methods of educational accounting, will include the development of two indices and an assessment of the prospects for devising more comprehensive educational accounts.

Educational Price Index. Such an index would give planners a more accurate picture of the components of total expenditures on education. The index will identify the major components of expenditures, differences among the costs of various programs and courses of study, and geographical differences on expenditures.

Educational Opportunity Index. This index will be used to document the success of an educational system in its efforts to provide access to quality educational programs to its youth. Initially, the index will relate enrolment and educational attainment to race, sex, family income, and geographical location.

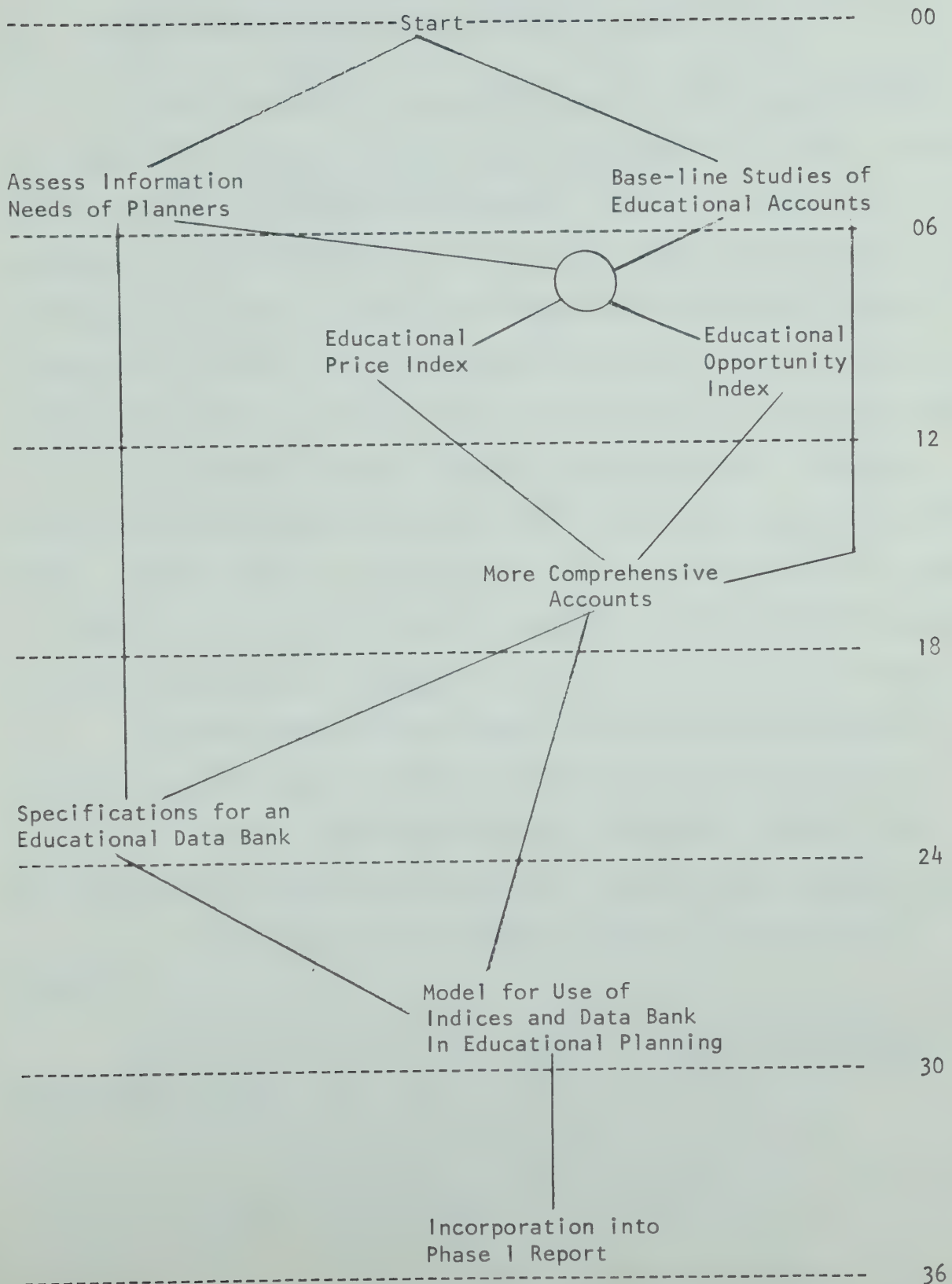
When the initial index has been devised, quantifiable definitions of educational quality will be developed and incorporated in the index. Although educational planners have only nibbled at the available data related to operational definitions of educational quality, some of the work undertaken in connection with the Coleman study of equality of educational opportunity in the United States has shown that this is a promising direction in which to move and that such measurements can make significant contributions to planning education.

Toward Improved Educational Accounts. The basic justification for efforts to obtain more precise estimates of education trends is the contribution they can make to understanding the educational system and to making policy decisions less prone to error.

We propose to undertake two studies which will make a start in this direction. The first will identify and analyse the effects of factors governing supply and demand education. Instead of treating both supply and demand forces in a single expenditure function, separate supply and demand functions will be formulated in order to clarify regional differences in the levels of expenditure.

The second aims at the development of measures of educational performance in order to identify promising practices, directions for remedial action, and the costs of educational change. The initial studies of the National Assessment Program in the United States indicate that the development of these measures is feasible and that successively more sophisticated methods of measurement and weighting can be devised.

Schedule of Work



CHAPTER FIVE

THE RATIONAL ALLOCATION OF RESOURCES TO EDUCATION

One of the most striking deficiencies of educational planning has been that it is slow to adjust resources allocated to specific programs to meet changing circumstances and demands. To a great extent this can be attributed to four main factors. In the first place, there are major inflexibilities in the resources that can be applied to educational programs: professional personnel are not fully mobile; physical facilities are not easily rearranged; and, perhaps most significant of all, a sizeable proportion of an educational system's resources are precommitted. Secondly, educational systems often lack well-defined objectives to guide their activities. Thirdly, there is often a great deal of confusion about the responsibilities for carrying out specific functions. Finally, education planners have been ill-equipped methodologically to make the required adjustments.

In recent years, certain quantitatively based techniques have been developed which can be used by the planners in offsetting these conditions. H.R.R.C. proposes to undertake a program of research which will examine these techniques and which will pay particular attention to:

1. the development of simulation models of the educational system;
2. the use of cost-benefit and cost-effectiveness analyses in educational planning.

But it first must be made clear that quantitative planning is not an alternative to common sense; it cannot replace common sense and it should not. It does supplement it, particularly with regard to the orders of magnitude of the phenomena involved. In planning, all information and all methods available should be put to use. (Tinbergen, 1968, pp. 9-10).

Simulating the Educational System

Most planners analyse intuitively and debate vigorously the implications of changes in government policy for the educational system. However, they frequently lack models which can be used to place their arguments on more solid footing by enabling them to estimate the probable effects of a change in educational policy.

The development of such a model of the educational system would be useful for a number of reasons: (1) the observable relations among forces in the educational system can be established; (2) the parameters that are necessary for making educational forecasts can be estimated; (3) the implications of alternative educational policies can be assessed; (4) probable changes in the system over time can be determined; and (5) the development of a model is a useful way of evaluating the educational system's data base.

Objectives of this Study

To develop a flexible modular model of the educational system.

To provide, through use of a simulation model, a vehicle for assessing the likely impacts of alternative policies on the educational system.

To develop a means of translating policies into detailed statements of resource needs.

Research Effort

H.R.R.C. proposed to develop an exploratory model which simulates an educational system at a rather gross level of aggregation. It will be designed to provide a jumping-off point for the development of more refined models.

Design specifications will require that the simulation be flexible, modular, and suitable for analysing a variety of management, planning, and policy problems in education. More specifically, the model will have to be useful for studying problems such as economies of scale in education, the ramifications of changes in programs of study, staffing policies, the use of alternative teaching media and instructional resources, and the design and utilization of physical facilities.

Cost-Benefit and Cost-Effectiveness Analysis in Education

There is a steadily increasing awareness of the fact that educational systems must improve their internal efficiency and their productivity. To do so, they must make distinctions among high and low priority programs and allocate their resources more effectively.

Objectives of this Study

To develop a comprehensive inventory of cost analysis methods.

To examine the advantages and the limitations of the use of these methods in an educational setting.

To assess the total and marginal benefits (both public and private) of selected educational programs.

To explore the costs and benefits of alternative educational programs.

To project these estimates of costs and benefits under varying assumptions about economic growth, educational development, technological change, and educational technology.

Research Effort

This program of research will of necessity be multi-faceted and closely linked with other studies in Phase I of the mission. Theoretical work to improve the conceptualization and measurement of educational costs and benefits is required. With regard to costs, this will involve careful identification and explanation of the components of educational expenditures. On the benefit side, this will involve an identification of the public and private goals served by education.

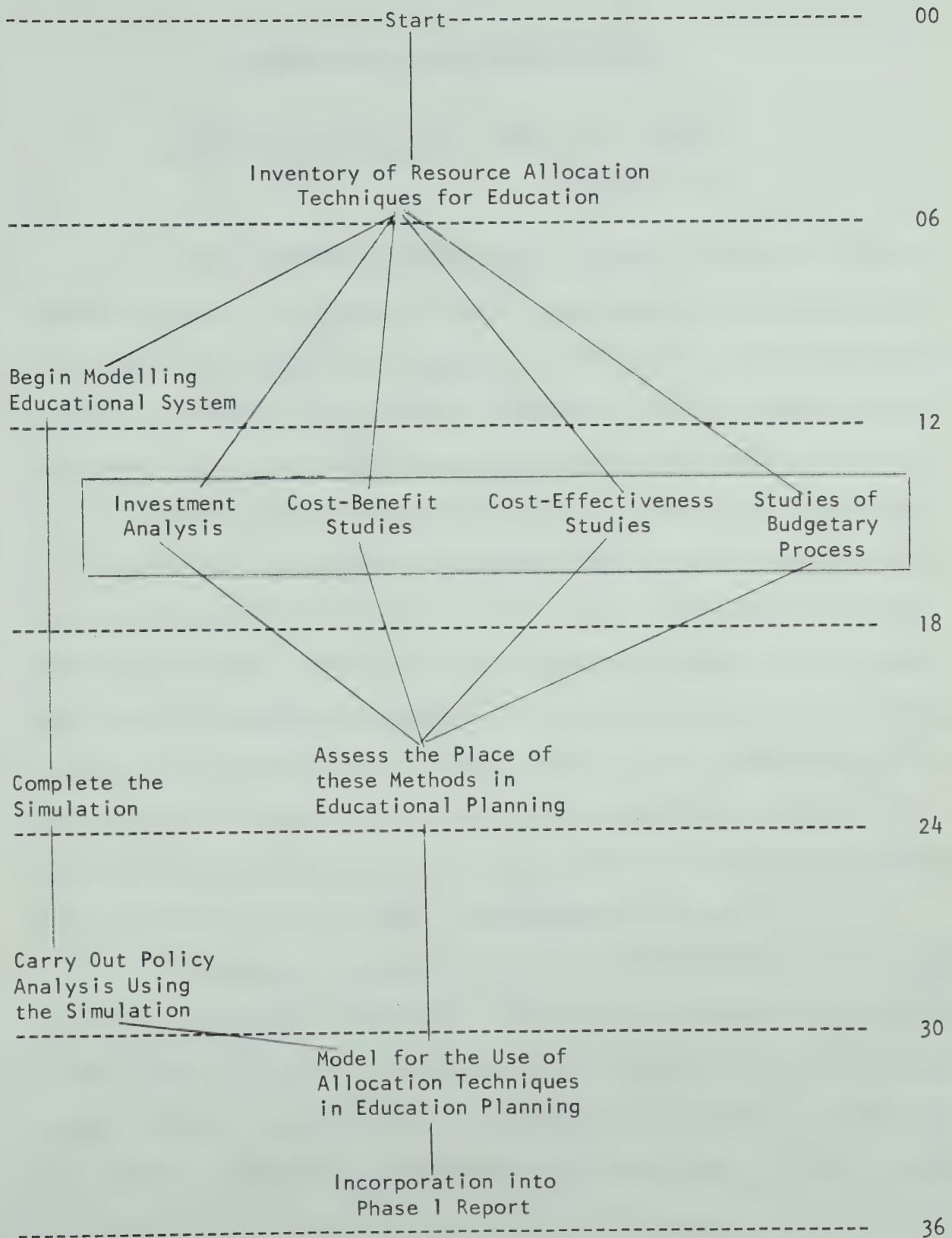
Each of these can be a rather tall order. Planning decisions usually have multidimensional consequences; that is, they involve costs and benefits stated in a number of different value units -- including explicit program goals or defined objective functions, direct monetary costs and benefits, non-monetary costs and benefits, and spill-over effects. Although the difficulties which follow from using incommensurable value units in a benefit-cost study can be enormous, these multidimensional consequences should not be overlooked. We propose to construct a utility scale to measure non-monetary costs and benefits and to incorporate the scale into a trade-off function so that we will be able to include qualitative variables in the analysis and thereby avoid the unnecessary omission of secondary costs and benefits from the study.

A second research thrust will focus on investment decisions in education. Because of the upward pressure on educational expenditures, both the proper level of total investment and the optimal mix between public and private investments in education should be examined.

Thirdly, the internal effectiveness of different educational programs will be explored. Most cost-effectiveness analyses in education to date have examined the gross relationships between expenditures and educational outputs without studying the actual programs on which the money was spent. Some attempt must be made to formulate effective strategies for allocating resources to a variety of educational programs.

The final study will examine the budgetary process in education. Traditionally, educational budgets have been developed incrementally and have been prepared in isolation from planned educational programs. An appropriate method for articulating the planning and budgetary processes needs to be devised.

Schedule of Work



CHAPTER SIX

EDUCATIONAL PLANNING AND FUTURES

I hold that man is in the right who is most in league with the future.

[Henrik Ibsen]

To date there have been serious problems in creating linkages between research, development, futures, and planning and policy analysis. As a result, there has been inadequate research to give educational planners a view of the future and, further, inadequate visions of the future to guide the research and development efforts of the educational planner.

The link between social forecasting and educational planning is a vital one. The former is a rational means of predicting the future employing the element of probability; the latter is a willful selection from among futures. Forecasts serve the planning process by providing continuous information and guidance for planning, criteria for determining priorities for interventions into the present system, indications of which or what kinds of resources are committed or uncommitted, and valuable insights into some of the problems associated with the timing of both the planning activity and the actual implementation of plans.

A program of research on futures proceeds inescapably on assumptions about historical development, the nature of cause and effect, and the organic nature of society. We take, as our starting point, economic development (industry, agriculture, availability and utilization of resources, and so on) in interaction with technological development. Sound forecasts

of population, social life, and environment are impossible without the projections of economic and technological development in hand. Projections of governmental policy are also essential as determinants of factors in other domains. Figure 2, on the next page, depicts the interactions among these domains.

It is important to make a distinction, at this juncture, between two classes of social forecasts. Exploratory forecasting is concerned with the attempt to project futures from a base of (a) fairly certain knowledge of past and present, and (b) explicit assumptions about unknowns, e.g. interaction effects. Normative forecasting, on the other hand, involves the stipulation of a set or alternative set of societal goals for some time period in the future -- a period sufficiently time-distant so that the commitment of resources is minimal -- and specifies the sequence of events and courses of action necessary to accomplish the stipulated goals. These two forms of forecasting, if they are concerned with the futures of the same region or nation, feed each other. Normative forecasting serves exploratory forecasting by specifying areas in inquiry and by providing additional "norm-laden" information. Exploratory forecasting serves normative forecasting with probabilistic information.

An Approach to Forecasting

Exploratory Forecasts

A comprehensive program of exploratory forecasting might be conceived in five stages as illustrated in Figure 3. It is a preliminary framework for interrelating the activities involved in a comprehensive program of social forecasting and will be refined as the project proceeds.

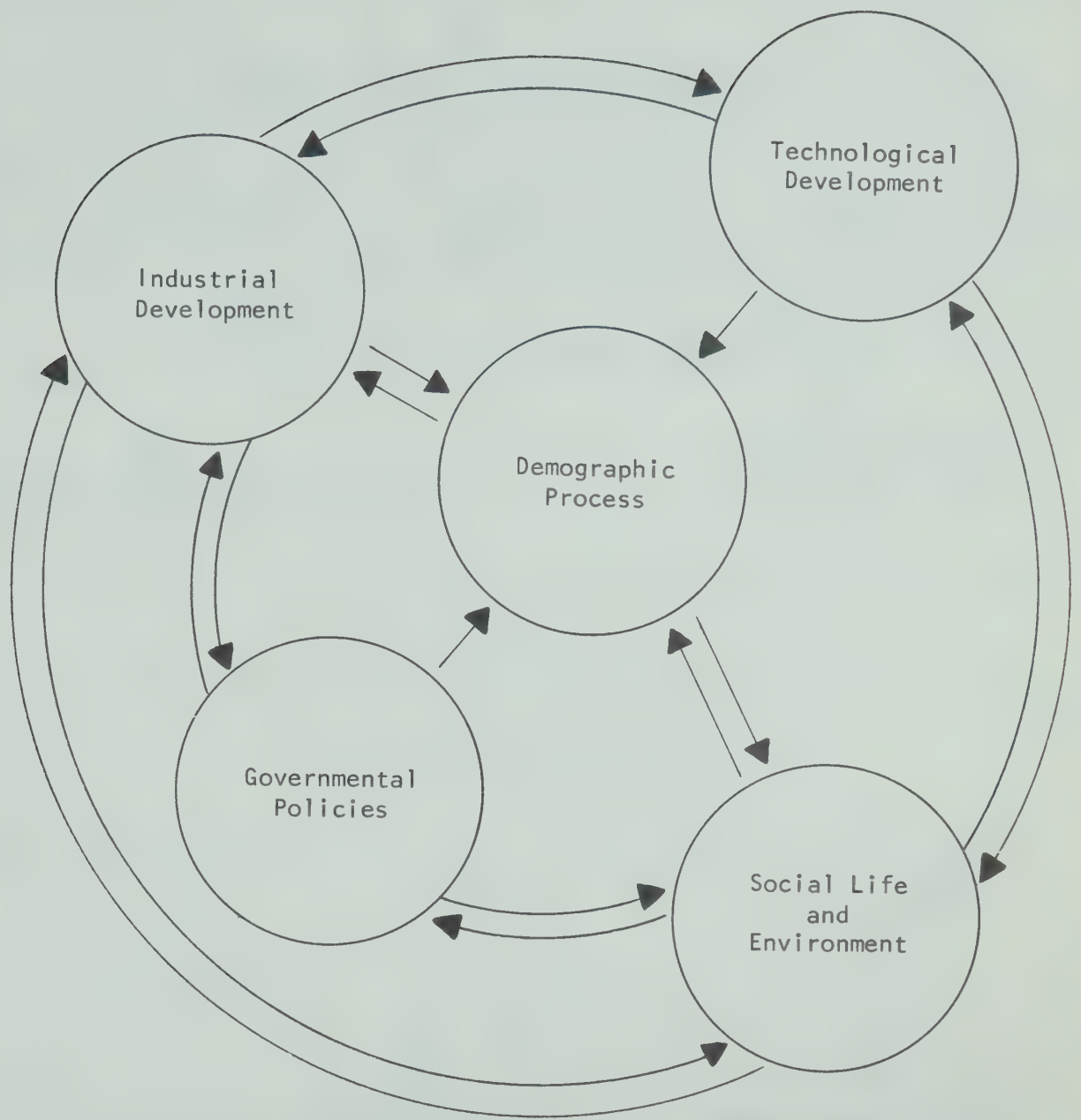


FIGURE 2: DOMAINS FOR STUDIES OF THE FUTURE

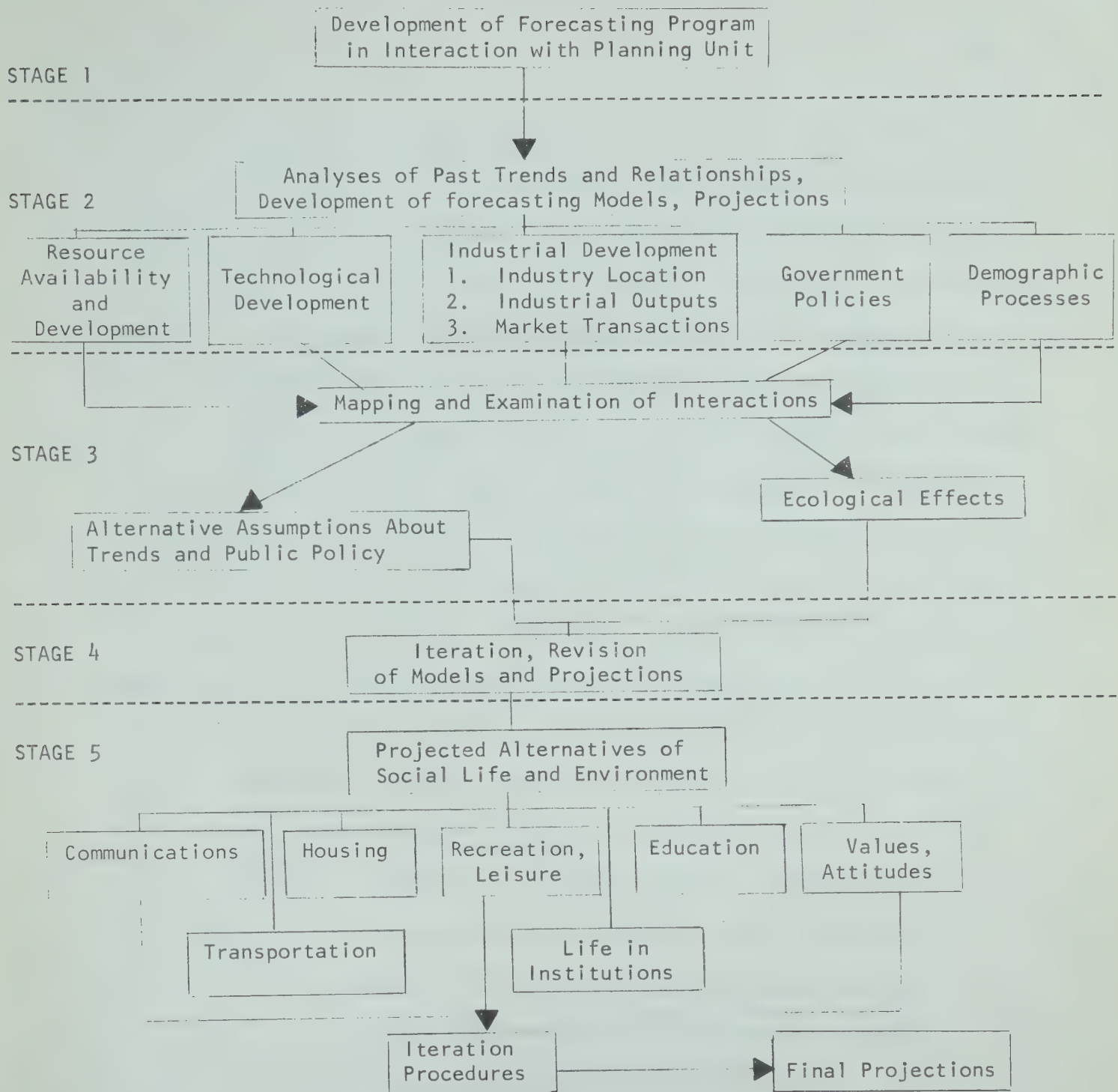


FIGURE 3: OVERVIEW OF AN EXPLORATORY FORECASTING SYSTEM

Stage 1. Assuming that we have a situation in which two programs of forecasting are being launched with the intention that they be integrated in process, the normative unit must specify the domains of its concerns with respect to the future; that is, what types of exploratory forecasts it would find useful in the development of its normative forecasts. (We assume that a fairly comprehensive program is required).

Stage 2. The exploratory unit undertakes analyses of past trends and relationships in such factors as rates of consumption of "renewable" and "non-renewable" resources, crop distributions and farming patterns, mercantile and industrial development, technological innovation and adoptions, population, labor force, employment, education enrolment, income, expenditures and revenues as they relate to the government and business and household sectors -- in the province or region and in the rest of the country. Essentially, Stage 2 requires five major streams of activity.

The first stream of activity is concerned with an analysis of industrial outputs in terms of a cost-sensitive and demand-sensitive classification. Cost-sensitive industry outputs can be projected from analyses of both provincial and out-of-province activities; demand-sensitive industry outputs projections require analyses of trading patterns and the relative size of local and export markets.

A second stream of research activity requires the projection of new resource availability and development.

A third stream of inquiry is concerned with technological development. Questions such as the following would govern these

activities: What are likely to be the new sources of power and energy? What technological developments are likely in transportation, data processing, communications, food processing, and so on? What will be the rate of adopting these technological innovations?

A fourth stream of inquiry deals with demographic processes -- geographical redistribution of the population, population growth (autonomous), birth rates, death rates, occupational distributions, age and sex distributions, etc. Here, once again, past trends will be analysed and projections made on the basis of these identified trends.

The last stream of inquiry in Stage 2 is an analysis of trends in federal, provincial and local policies, trends in needs for public services, and a projection of public expenditures and revenues by level projections, based on analyses of data for past and present, for industrial outputs, resource development, technological innovation and adoption, population, and government expenditures and revenues. These estimates will have been produced by five separate streams of inquiry. They will not have been related to each other, nor will their implications have been fully explicated.

Stage 3. The objectives of Stage 3 are twofold:

1. to conduct studies of the interaction effects between developments projected in Stage 2; and
2. to determine the ramifications of alternative assumptions about the trends and of various changes in public policy.

The first stream of exploration in Stage 3 would be aimed at relating resources development, technological development and industrial

output projections made in Stage 2. The second stream of activity would attempt to assess the implications of applying different assumptions to the trends and the influence of government policy on these phenomena. The final stream involves bringing the social and technological projections together and assessing the effects of their interaction. Population, social organization, technology, and environment have far reaching mutual ramifications, and their interactions must be accounted for in any forecasting model. Stage 3, therefore, adds new data and new projections not available in Stage 2.

Stage 4. The "hard" projections need now to be examined and revised to meet criteria of internal consistency. It is during this stage, with the analyses of interactions of the phenomena projected in Stage 3 with those iterated in the same stage, that the final estimates of future states of population, industry and technology are produced.

Stage 5. The objective of inquiries in this stage is to develop alternate futures of social life on the basis of the thorough "hard" forecasts made earlier. By means of scenario writing techniques and intuitive techniques, images might be developed of urban life, recreation and leisure, human relationships to and in a variety of social, economic and political institutions, values and attitudes held by the population, that nature of various social institutions, and consequences for the biological and physical environment. It is at this stage that the social and environmental implications of the earlier projections are fully explored.

We could develop a sixth stage in which the images of social life are fed back into the forecasts of earlier stages and those earlier forecasts revised accordingly. The process of iteration and successive approximation could continue.

Normative Forecasts

We have already written that, if exploratory and normative forecasts are concerned with the futures of the same region or nation, they feed each other. The basic reason for this is to be found in the nature of normative forecasting -- normative forecasting introduces objectives, needs, desires, and constraints as elements to be taken into account in the process of forecasting. Erich Jantsch has listed some of the basic attitudes that lead to normative forecasting (1967, p. 29): recognition of responsibility toward society or nation; recognition of economic potentials; recognition of an ultimate technological potential; awareness of constraints, for example in natural resources and system resources; and hedging against threats.

There are, then, two basic processes involved in technological forecasting:

1. normative specifications for certain aspects of the future -- selecting goals or deciding what ought to be; and
2. providing descriptions of activities that will be necessary to reach that future state.

Again following Jantsch's lead, it should be pointed out that certain conditions must be created if normative forecasting is to be effective. Normative forecasting is essentially an attempt to make an optimal decision; mechanisms to make that kind of a decision must be established.

Normative forecasting works best in a system that is "closed" or which is able to apply enough sanctions and leverage to make normative forecasting work.

At this stage, we could easily become involved in a discussion of the ideological debits and credits of normative forecasting. However, such a debate is not likely to prove fruitful. In general, we believe it is enough to say that forecasting is a particular kind of approach to the problems of the future, and that in approaching the problems of the future we should make use of all of the techniques at our disposal, whether exploratory or normative.

Objectives of the Study

To develop flexible and modular techniques for social forecasting and to provide for their effective integration into the educational planning process.

To evaluate and explore the implications of the use of these forecasting techniques in educational planning.

Research Effort

Although one of the overriding pragmatic objectives of these studies of the future might be to identify those aspects of the current educational system which are likely to be dysfunctional at some time in the future, we propose to move beyond the limits implied by this objective. An attempt will be made to identify the most basic features of the educational process and then to determine the impact of probable social, economic, and technological developments on these processes over the next ten to thirty years. Efforts designed to devise alternative ways of organizing the education system to enable it to cope with projected future changes will

be undertaken. And attention will be given to means-organization-value systems, stressing the nature of the modes of life to which a particular system is conducive.

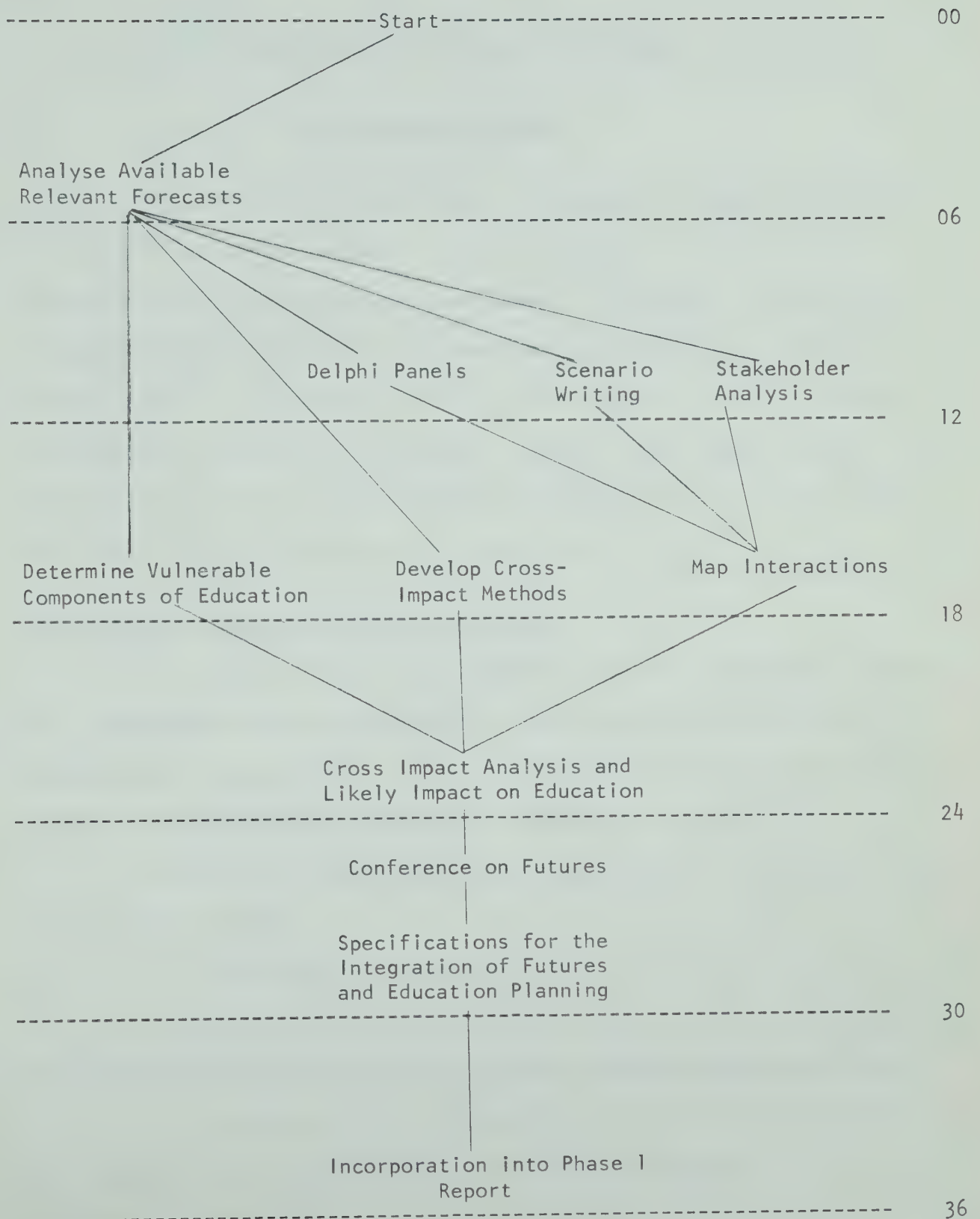
A program of research on futures has already been initiated by the Alberta Human Resources Research Council. In addition to program planning, much of the work to date has been on a forecast retrieval project which began in mid-December, 1969. This project was designed to retrieve and collate available forecasts relevant to the future of western and northern Canada; the first project report was made available in April, 1970. The project will be a continuing one in the Human Resources Research Council. The remainder of this chapter is an excerpt from the first report on the futures program.

To facilitate the storage, retrieval and manipulation of forecast statements, a computerized citation system has been devised. The format for this system includes a statement about the source of the forecast (publication reference), a forecast statement, a statement of related information which explains the forecast, lists the implications of the forecast, and provides background information pertaining to it, a substantive classification of the forecast using categories developed in the Outline of Cultural Materials, the time horizon of the forecast, and the probability of the forecasted event or state. Information can be retrieved by several means and can be organized on a computer print-out in a variety of ways. Below are descriptions of the most important means for data retrieval:

- a. by subject matter - all forecast statements dealing with a particular subject, such as communication, can be retrieved along with any related information. To recall information in this manner, reference is made to the Outline of Cultural Materials, the code number corresponding to the particular subject is noted, and instructions can be written to print out the information corresponding to that code;
- b. by related information - data can be recalled in a manner facilitating the development of a cause-effect relationship within the data bank by choosing a particular category and instructing the computer to print out all forecast statements which have that particular category appearing as one of its related statements;
- c. by time horizon, for example, by periods of time which are short-range, intermediate or long-range.
- d. by author of source material - it is possible to retrieve all forecast statements and related statements which stem from one author. Conversely, it is possible to recall the names of all authors who have made forecasts on a particular subject; and
- e. by geographical area.

At the present time the use of this system is limited to storage and retrieval, but its capabilities will be expanded to include cross-impact matrix analyses.

Schedule of Work



CHAPTER SEVEN

MISSION ADMINISTRATION, BUDGET, AND SUMMARY

Mission Administration

Any plans for a mission must take shape as a balanced and well-timed set of individual projects: this is the heart of any mission-oriented program of research and development. The overall responsibility for mounting the mission will be assumed by the Alberta Human Resources Research Council. The mandate and the research capability of the Council is described at the end of the proposal. H.R.R.C. has selected a full-time, high-level director for the mission and has established an initial policy and research advisory committee for the mission.

The Policy and Research Advisory Committees

The eventual size of these committees will be determined carefully and, in addition to one representative from O.E.C.D., will consist of professionally and technically expert representatives from various Canadian agencies. In general, its functions will be to:

1. provide H.R.R.C. and the mission director with advice on the conduct of the mission;
2. review research proposals;
3. periodically examine the progress of the mission and advise on modifications to the mission which experience indicates to be desirable;
4. to advise H.R.R.C. and the mission staff on the nature of their own work and its connection with the mission program.

The Mission Director

The Director of the Education Planning Mission is a person with proven administrative ability and a strong academic background in the study of educational organizations. His functions are to:

1. act as executive secretary to the policy and research advisory committees;
2. direct the research efforts of the mission;
3. devise a research and development strategy that is flexible enough to be responsive to educational changes and to new developments elsewhere;
4. keep the mission balanced, integrated, well-timed, and moving in the right direction;
5. develop criteria for the evaluation of the mission as a whole as well as of the individual projects within the mission;
6. provide high-level leadership to the mission staff;
7. determine the optimum mix of in-house and contracted research programs; and
8. assemble the mission staff, consultants to the mission, contractees for particular research projects.

Mission Budget

Expense Classification	Year 1	Year 2	Year 3
1. <u>Staff</u>			
Mission Director	25,000	25,000	25,000
Associate Director	19,000	19,000	19,000
Research Assistance	---	---	16,000
Consultants	3,000	3,000	---
Secretarial	5,000	5,000	10,000
2. <u>Advisory Committee</u>	10,000	10,000	10,000
3. <u>Commissioned and In-House Research</u>	164,000	210,000	71,500
4. <u>Conferences</u>	4,000	4,000	4,000
5. <u>Publications</u>	5,000	5,000	10,000
6. <u>Travel</u>	10,000	10,000	10,000
7. <u>Materials and Supplies</u>	18,000	18,000	14,000
TOTALS	263,000	334,000	189,500

Mission Summary

The mission is a comprehensive program of research and development on education planning. This proposal was an elaboration of Phase 1 of the mission -- the research phase. The design of the subsequent phases of the total mission will be developed during the course of Phase 1.

Although all of the products anticipated from the research effort of Phase 1 have already been mentioned in the preceding parts of this

proposal, it is desirable to state, in summary fashion, the major sets of research products:

1. a conceptual model of the educational planning process;
2. the beginnings of a method of educational accounting and specifications for an educational data bank;
3. the development of a repertoire of quantitative techniques for education planning, including a simulation of an educational system;
4. a model for the integration of education planning and social forecasting and futures;
5. a model for the reorganization of education planning.

References

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Kahn, A., Theory and Practice of Social Planning, New York: Russell Sage Foundation, 1969.

Tinbergen, J., Central Planning, New Haven: Yale University Press, 1964.

Unesco, Educational Planning: A Survey of Problems and Practice, ED/ICEP/3, Paris, August, 1968.

The Alberta Human Resources Research Council:
Its Mandate and Research Capability

The Alberta Human Resources Research Council was established by an act of the Legislature of Alberta in 1968. The Council began operating in September, 1968.

The following objectives were inherent in the legislation:

1. to conduct, or facilitate, research in the human or social domain;
2. to disseminate such knowledge as may be significant to the determination of social policy;
3. to develop plans, materials, and procedures relating to various aspects of human resources development;
4. to assist all citizens in understanding emerging trends and problems in the area of human resources development;
5. to facilitate and assist in the training of persons engaged in similar research and development.

Currently, the Council's research and development activities focus on five themes:

1. studies of social and economic opportunity;
2. studies of education;
3. studies of planning and of the future;
4. studies of human development;
5. studies of urban life.

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*These lists include the names of only those people whose specializations and fields of interest are especially relevant to studies of education planning.

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